Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

Leaflet No. 127

1
Ag84L
cop 3

LIBRARY
RECEIVED
MAR 11 1947
U.S. DEPT. OF AGRICULTURE

The Culture of Table Beets

U. S. DEPARTMENT OF AGRICULTURE

Issued August 1937 Slightly revised March 1940

THE CULTURE OF TABLE BEETS

By J. H. BEATTIE, *senior horticulturist, Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry*

Importance of the Beet Crop

Table or garden beets are grown under a wide range of soil and climatic conditions and are popular because of their value as human food and the comparative ease with which they can be grown. Beets are grown in the South as a fall, winter, and spring crop and as an early summer and fall crop in the northern part of the country. The relative ease with which beets may be kept for winter use by storage or by canning in the northern sections adds to their popularity. According to statistics compiled by the Bureau of Agricultural Economics for the period from 1930 to 1938, there were 9,610 to 12,870 acres devoted to beets for table use and from 3,000 to 12,000 acres devoted to growing beets for commercial canning. These figures, however, do not include the great quantities of table beets grown in home gardens. The increasing popularity of beets is due to the fact that the markets are now constantly supplied during the winter with freshly bunched beets.

Types of Beets

The beet is an exceedingly variable plant; several well-defined types are recognized by horticulturists, all of which originated from the wild plant known to botanists as *Beta vulgaris*. Most botanists recognize four types: The ordinary garden beet; the Swiss chard or leaf beet; the sugar beet; and the mangel, or stock beet. In this discussion garden or table beets are mainly considered. The sugar beet is frequently stored and used as a table beet during the winter.

Soils and Fertilizers

Garden beets are produced on a wide variety of soils, but, whatever soil is selected, it should be well enriched and should be one that warms up quickly in the spring. Most growers regard sandy loams as best adapted to beet culture, this being particularly true for the early spring crop. For later crops heavier soils can be employed, and such soils are very widely used for the midsummer and fall crops.

Land in good physical condition as the result of proper handling, well supplied with available plant food, and high in organic matter is essential if the best results with beets are to be attained. Because of the present scarcity of stable manure, soil-improving crops must

205492°—40

be relied upon very largely for maintaining the organic matter in the soil. Table beets should not be planted on land immediately following the turning under of heavy crops of soybeans, cowpeas, wheat straw, or any material of that character, as the decaying cellulose material in the soil-improvement crop robs the beets of the required nitrogen. Where these crops are plowed under a year in advance, the land will, under most conditions, be suitable for the growing of beets. Commercial fertilizers containing 6 or 7 percent of nitrogen, 10 to 12 percent of phosphoric acid, and 5 or 6 percent of potash should be used at a rate of not less than 1,000 pounds to the acre, and on southern truck farms a ton of fertilizer to the acre is recommended.

Lime

The beet is exceedingly sensitive to soil acidity. If there is any doubt about the condition of the soil in this respect, it should be carefully tested and lime applied if the test shows that it is needed. In general, a soil more acid than that indicated by a pH (hydrogen-ion concentration) of 6.0 is unsuitable for beets without liming. The best results are usually obtained when the pH is between 6.0 and 6.9. Upon soils known to be acid or "sour" and in the absence of definite tests showing the exact need of the soil for lime, it will usually be wise to make a moderate application of lime to the land at least a week or two before sowing beets. From 500 to 1,000 pounds of hydrated lime per acre is usually sufficient.

Varieties and Seed

Extra Early Egyptian, Early Wonder, and Crosby Egyptian are three of the best of the early varieties of beets. Detroit Dark Red and Crimson Globe are excellent late sorts. The latter varieties are very generally used for canning because of their deep-red color, which gives the kind of product the market demands. Much attention has been given to the development of special strains of beets for various purposes, and it is possible to obtain excellent stocks of beets. Beet seed, if properly cared for, will retain its vitality 2 or 3 years, but, as a rule, it is not advisable to plant seed that is more than 2 years old. Each seed ball contains two to three seeds.

Preparation of the Soil

Owing to the fact that beet plants are small and very weak when young, the soil should be prepared in the best possible manner. Soils that are inclined to pack or form a crust after a rain are not adapted to the growing of beets, on account of the difficulty in getting the beet seeds to come up. The soil should be free from any and all rough material and should be pulverized to a depth of several inches. The surface should be brought to a smooth finish before the seeds are sown. Where small areas are planted to beets the surface may be finished with a steel rake, but where beets are planted on a large scale a Meeker harrow or a drag should be used ahead of the seed drill.

Planting

The seed is usually sown in rows in the field, but occasionally it is sown in hot beds or coldframes, and the plants are transplanted to the field. The rows in the field should be a suitable distance apart for the cultural methods to be followed; that is, if horse cultivation is to be practiced, the rows should be at least 28 inches apart, but if the plot is to be hand-cultivated they need not be more than 16 to 18 inches apart. When beets are sown in rows wide enough for cultivation by horse-drawn tools, about 6 pounds of seed is required for each acre, or about 1 ounce of seed for each 150 feet of row. The seed may be sown by hand or by the use of a special seed drill, and owing to the roughness and irregularity of beet seed it is necessary to use a force-feed drill that will insure an even distribution of the seed. The seed is usually covered to a depth of ½ to 1 inch, depending on the texture of the soil. As a rule, on light soils the seed may be covered deeper than would be desirable on heavy soils.

As beet seed is rather slow in germinating, the practice of sowing some other seed along with the beet seed is sometimes followed. The other plants then serve as markers of the rows before the beets are up, making it possible to cultivate before the beets show above ground. Radishes are very frequently used for this purpose. Owing to the fact that beet seed is in balls or clusters and that it is difficult to get uniform distribution in the rows, it is nearly always necessary to thin the crop as soon as the plants are 2 or 3 inches in height. The distance between plants must be determined to some extent by the variety used but for most strains will be from 3 to 4 inches.

When the transplanting method is followed, the seed is sown in rows about 3 inches apart in the coldframe or hotbed, and as soon as the plants are about 3 inches high or are showing their true leaves, they are transplanted to the field. As this method involves a large amount of hand labor, it is not often adopted.

Cultivation

The cultivation required for garden beets is similar to that for most other small crops, such as onions, lettuce, carrots, etc. Owing to the fact that the young plants are easily injured by having clods rolled on them by the cultivating tools, it is essential that extreme care be taken during the first two or three cultivations. For the first cultivation most growers use a wheel hoe with small attachments. After the plants attain some size, heavier tools can be used. Where horse cultivation is used cultivators having a large number of small teeth are employed.

Harvesting, Marketing, and Storing

When beets are grown for sale in the early markets, they are usually pulled when 1½ to 2½ inches in diameter, tied in bunches of from four to six, and the bunches packed in crates. Some growers make a practice of washing the beets before or after bunching them, and this lends attractiveness to the product. If the beets are to be placed in the hands of the customer in first-class condition, it is necessary that they be marketed in as short a time as possible after being harvested. Where table beets are shipped considerable distances they are packed in crates with about 30 pounds of "snow", or finely crushed ice, in each crate and transported in refrigerator cars. United States marketing standards for both bunched beets and topped beets have been prepared and copies can be secured by writing to the Bureau of Agricultural Economics, United States Department of Agriculture, Washington, D. C.

Directions for the storing of beets are to be found in Farmers' Bulletin 879, The Home Storage of Vegetables. Beets grown for winter storage are allowed to remain in the field until just before hard fall frosts occur. Then they are pulled and topped, leaving about one-half inch of the leaf stems, and are stored in banks, pits, or cool cellars. The proper storage temperature for beets is about 38° or 40° F.

Mangels

Large-growing types of beets, known as mangels or mangel-wurzels, are often used for stock-feeding purposes. The culture of mangels is similar to that of table beets except that, owing to their large size (individual specimens often weighing 10 or more pounds) they should be planted in rows at least 30 inches apart and the plants thinned to 10 or 12 inches apart in the rows. On account of the great length of mangels, the soil should be prepared to a depth of at least 10 or 12 inches. Golden Tankard, Danish Sludstrup, Giant Half Sugar, Mammoth Long Red, and Leviathan are among the varieties most commonly grown.

The crop is harvested and stored in cellars or banks and used throughout the winter for stock and poultry feed. These large coarse beets are undesirable as human food.

U. S. GOVERNMENT PRINTING OFFICE: 1940

For sale by the Superintendent of Documents, Washington, D. C. - - - - - Price 5 cents